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5 January 1965

UNITED STATES INTELLIGENCE BOARD

COMMITTEE ON DOCUMENTATION

TASK TEAM VIII - PHOTO CHIP

Terms of Reference

I. OBJECTIVE

To recommend to CODIB the most effective, efficient and economical means of exchanging, storing and retrieving photography (primarily aerial) for all organizations/agencies within the purview of the USIB.

II. BACKGROUND

A. USIB Charge to CODIB: "[redacted] develop a standard Photo Chip, exploring the feasibility of adopting the recently developed DoD standard." 1/

NOTE - Initial inquiry by the Task Team indicates that the ISCIG 2/ report from which the DoD "standrd" was evolved has not been officially adopted or implemented. Moreover, it is the understanding of the Task Team that the ISCIG study concentrated on the operating problems of the services, and that it operated at the SECRET level. The CODIB Photo Chip ~~inquiry will operate at all necessary classification levels~~ and will examine ~~the~~ aspects of the strategic and tactical intelligence cycles, i.e., collection, production, analysis,

1/ Directed by USIB, 29 April 1964, USIB-M-322

INSERT II A

II A - Note - Initial inquiry by the Task Team indicates that the JSCIG study from which the DOD standard was evolved concentrated on the operating problems of the services and was limited to senior level deliberations. With the exception of the 70 x 100 mm extended film chip size, the DOD standard, which was designed for tactical use, has not been officially adopted or implimented. See Pick up draft The CODIB ...

and storage and retrieval [redacted] with particular reference to the needs of the Intelligence Community and to the efficiency and effectiveness of the Community's information processing system.

B. SCIPS Recommendation 3/ ".....included examination of standardized indexing of photographic materials....reduction of tremendous volume of film presently being distributed....standardized film chips and related equipment for storing, retrieving, interpreting and duplicating photography....standard reporting techniques and formats....techniques for more successful integration of all photographic materials....techniques for getting photo-derived information to users in quickest possible time...."

C. Photo Chip Applications 4/ ~~The Ad Hoc notes that~~ several forms of chipped information have developed over the past few years, that ~~these forms~~ are used to store both images of physical objects and textual data. While we cannot ~~at this juncture~~ presently separate clearly these forms or their applications by intelligence functions or physical characteristics, the following are three broadly different uses ~~that~~ have emerged ~~to date~~:

1. In an Operational Data Base, i.e., Navy Integrated ~~e.g., the [redacted]~~

3/ Report of the Special ISCIG Committee for Standardization of Plans and Devices for Storage and Retrieval of Reconnaissance Materials, 10 June 1963.

4/ Staff for the Community Information Processing Study (SCIPS) Stage I Report, SC No. 11957/63, 8 November 1963.

Operational Intelligence System

shipborne operational support system).

2. In a General Analytic Data Base, e.g., CIA/NPIC source development and production; SAC target analysis effort; CIA/ER general economic analysis.

NEW VERSION

3. In a General Reference Data Base, e.g., research in depth in both photography and related textual materials stored in systems, such as, Microfiche.

III. SCOPE AND APPROACH

A. The main effort will be to examine both the present and potential requirement for photographic information within the Intelligence Community, with particular reference to aerial reconnaissance photography, to appraise the present and prospective in-flows in relation to photo chip requirements, to examine ways and means for making the most of the photographic information available at any given time, and to assess to the extent possible the impact of certain constraining factors in the fields of technology, chemistry, sercurity, organization structure, and the like. The Team will seek out the information relevant to these broad targets within the Intelligence Community, extending beyond only to obtain those insights essential to the successful completion of its inquiry. To the maximum extent possible, the Team will utilize existing reports to provide the basic data. To fill in critical gaps in what is admittedly incomplete literature, we plan to request reports from those operating elements most qualified to collect the needed information and most competent to speak authoritatively to the problem under

inquiry. The foregoing will be supplemented with briefings by people having ~~particularly~~ relevant competence for the problem at hand. We plan to make on-site inspections of important chip systems ~~within the Community~~ and of selected firms who can contribute significantly on certain aspects of technology pertaining to: chip handling equipments; chip content design; film emulsion chemistry; ~~and on~~ the physics of film bonds and bases; the electronics, optics and mechanics of chip reading (and) ~~and on the optics and mechanics of~~ acquisition.

B. The Task Team will operate at all appropriate security classification levels.

IV. TASKS

~~NOTE:~~ The following broad tasks indicate major areas of concern to the Task Team's inquiry with questions under each major heading designed to open avenues of particular interest to the general Photo Chip problem. They are not intended to constrain in any way either the Task Team's inquiry or its report to CODIB.

A. Identify and Describe existing Photographic Information (multi-~~spectral~~ sensor imagery 1/) collection, processing and using systems at the National, Departmental and Operational levels.

1. Questions - What are the names, ages, and general functions of the various systems? Which ones are located within the Intelligence Community? Outside the Community? What are the operating relationships between the group within the Community and the group outside? Wha

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1/ as used herein does not include

interface relationships among those systems within the Community? Among those outside? What are the major uses made of photographic information--by the collector/processors? By the single-source producers? By the multi-source producers? By the users of various intelligence end products? By others?

[illegible]

B. Identify and describe existing Photo Chip systems at the National, Departmental and Operational level.

1. Questions - What is the name, age and general function of each system? At what level or levels does it function? And, what are its production and functional responsiblities? How has each system worked over the past few years, and what are its prospects over the immediate and medium-term future? What are the present interface relationships among the various Photo Chip systems and with other intelligence information systems; and what are these likely to be in the future? What are the major uses made of Photo Chip systems? By the processor/producers? By the single-source producers? Multiple-source producers? By users of various intelligence end products?

C. Ascertain present and prospective intelligence requirements for photographic information and Photo Chips at the National, Departmental and Operational level.

1. Questions - What are the needs of various users, both present and potential, for photographic information (imagery

data) in general? What are the present and potential requirements for photographic information in Photo Chip form? What are the varying requirements for technical characteristics of any Photo Chip xxxxx systems, such as, minimums and maximums for systems scales, installation area size, quality and the like? What are the critical differences (to intelligence users) in these areas, and the reasons therefor? What are the advantages and disadvantages of the Photo Chip form and of Photo Chip standardization? Where are Chips presently made? What is their [redacted] distribution and use? How, where, and to what benefit could chipping lead to expanded use of photographic information?

D. Review existing exploitation policy and procedures for photographic information (imagery data).

1. Questions - What has been the general trend in the use of photographic information (imagery data), with empahsis on reconnaissance photography? What has been the general policy on the collection, control, dissemination and use of photographic information of various kinds, especially in regard to reconnaissance photography? How has this affected its use[redacted]? What are the trends in these regards, and how might the possible broader use of reconnaissance materials bear on both technical characteristics of Photo Chip standardization and future policies regarding dissemination and use? What are the problems and concerns of general

all-source analytic offices as distinct from processor/ producers and special (single) source or single-purpose producers? What are the present means for making strategic photographic information (imagery data) available to general analysts and users? How adequate are these in terms of both present and prospective user needs? What means would be most effective in bringing these latter considerations to bear on Task Team deliberations?

E. Explore possible benefits from Photo Chip standardization.

1. Questions (content value and use) - What changes might occur in the quality of photographic information (imagery data) in film form? in Photo Chip form? How might the dissemination, exchange and timeliness of photographic information (imagery data) be affected by Photo Chip standardization? How might Photo Chip standardization affect the extent of use for intelligence purposes. For other purposes? In what areas are we most likely to realize advantages from the more extensive use of Chipped photographic information (imagery data) as a part of the Community all-source analytic and production effort?

2. Questions (efficiency-economy) - To what extent might we expect Photo Chip standardization to lead to improvement in the overall effectiveness and efficiency of the Community intelligence effort? Where might these improvements occur? For what reasons? In what forms might these become evident? Money savings? Manpower savings? Greater productivity for the same cost?

3. Questions (countervailing impacts) - What might be the countervailing considerations of Photo Chip standardization? Added cost for chip production, dissemination, use? Added cost from broader use of chipped photographic information? From more intensive use? What other difficulties might arise in development of Photo Chip standardization? How would the foregoing appear over the short-term? The long-term?

F. Explore the impact of constraining factors.

1. Questions (Technology) - What constraints might be encountered in present technology affecting collection, processing, distribution and use of photographic information carried in Photo Chip form? Where are the most critical constraining points likely to be found? What is the impact of each constraining point on the coverage, quality, timeliness and general availability of photographic information to the Intelligence Community? How do the foregoing bear on Photo Chip standardization? Size? Form? Design? [redacted] Hardware? What are the trends in technology affecting the foregoing generally? What would be the impact of advancing technology on each of the constraint points? When might these occur?

2. Questions (Policy, Security, Customs, Organization Structure, Exploitation Capability) - In what ways might any of these effect the collection, processing, distribution and use of photographic information (imagery data) in Photo Chip form? For example, how might the present organizational

structure of the Community affect the xxxx cost and xxx utility of Photo Chip standardization?

3. Questions (Chemistry) - What are the constraints of present chemistry on the quality of photographic information, especially reconnaissance photography? How does this bear on the size and form of a Photo Chip? On the content value? On 2nd and 3rd, etc., generation quality and generation file utility? What are the trends in chemistry related to photographic storage of information? What might be the timing and nature of future improvements? Mono? Stereo? Color? Black-White? Wet? Dry? Hot? Cold?

G. Prepare recommendations to CODIB.

~~XXXXMEMBERSHIP~~

V. MEMBERSHIP

All USIB agencies or their components having ~~a legitimate~~ an interest in ~~interest in the exchange, storage, and retrieval of photography~~ information ~~(primarily aerial) may be~~ and an ability to contribute may be invited to participate.

The preceding may be

T/VIII/General

SECRET

10 June 1966

Comments on Task Team VIII Written Briefing Document:

1. The portions of the report pertaining to a reorganization of the reconnaissance community should be deleted.

2. Those portions pertaining to photo chip standardization should include material on:

a. Brief description of ISCIG effort, including:

(1) Reasons for recommending 70x100mm photo chip.

(2) Difficulties of implementing recommendation.

(3) Present status of ISCIG effort.

b. Who uses a 70x100mm photo chip today?

c. Why the Task Team is not recommending standardization on the 70x100mm film chip for all uses in view of the original USIB charge on the subject.

d. Proper role of the film chip in intelligence processing in view of skepticism of many people with reference to SCRAM, PACER, SAMOS, etc.

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